

September 17, 2018

**Arthur M. Keller**

Minerva Consulting  
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**Research Interests:**

Electronic commerce, databases, fighting spam, voting, entrepreneurship.

**Education:**

Brooklyn College (City University of New York).  
BS, *summa cum laude*, (2/77) with departmental honors in both majors Mathematics and in Computer and Information Science.

Stanford University.

MS (6/79) in Computer Science.

PhD (2/85) in Computer Science.

PhD dissertation topic: Updating Relational Databases Through Views.

**Professional Experience:**

- |                 |   |
|-----------------|---|
| 2013 to 2017    | Active Ion Displays, Inc., Redwood City, CA. Co-Founder, Chair of the Board, and Chief Financial Officer.   |
| 2011 to present | Psych E Analytics, Inc., Corte Madera, CA. Founder, Board Member, Chief Financial Officer, and Chief Data Scientist.  |
| 2003 to present | University of California at Santa Cruz, Computer Science, Information Systems and Technology Management, Technology Management, or Computer Engineering. Lecturer and Research Associate.   |
| 2001 to 2003    | University of California at Santa Cruz, Department of Computer Science. Visiting Associate Professor.   |
| 1999 to present | Minerva Consulting, Palo Alto, CA. Managing Partner and co-Founder. Clients include Propel Software (Technical Advisory Board), Virtual Giveaway.com (Advisor), Serus (Advisor), Broader Minds (Founding Advisor and Board Member), Unspam Technologies (Advisor), GenMobi Technologies (Board Member), Neuron Valley Networks (Advisor), KT Consulting (under contract from NIST, the National Institutes of Standards and Technology), Magnify.net (Advisor), DiagKnowLogy (Advisor), SmartQED (Advisor). |

DDR Holdings, LLC - Ex. 2026

- 2000 to 2007      Globallinx Network, Inc., Mountain View, CA. Interim CEO, Board Member, angel investor, and co-Founder.
- 1998 to 2003      Target Mining Corp. (previously buyermail.com and ccRewards.com), Los Altos, CA. Chief Technical Advisor, Board Member, angel investor, and co-Founder.
- 1987 to 1999      Stanford University, Computer Science Department. Senior Research Scientist (1992 to 1999), Research Scientist (1991 to 1992), Research Associate (1989 to 1991), Visiting Assistant Professor (1987 to 1989).
- 1991 to 1999      Persistence Software, San Mateo, CA. Chief Technical Advisor (1992 to 1999), member of Board of Directors (1994 to 1997), member of Board of Advisors (1992 to 1994), Technical Advisor (1991 to 1992). (IPO, June 1999.)
- 1996 to 1998      Epistemics (now called Mergent Systems), Palo Alto, CA. Co-Founder, Chief Financial Officer, Chief Operating Officer, and Board Member. (Acquired by Commerce One, January 2000.)
- 1989 to 1993      Advanced Decision Systems, Mountain View, CA. Senior Computer Scientist.
- 1985 to 1989      University of Texas at Austin, Department of Computer Sciences. Assistant Professor (1985 to 1988). Adjunct Assistant Professor (1988 to 1989).
- 1977 to 1985      Stanford University, Computer Science Department. Research Associate (1985). Research Assistant (1977 to 1985). Acting Assistant Chairman (with rank of Predoctoral Research Affiliate) (1982). Instructor (1979, 1980, 1981).
- 1981                IBM, San Jose Research Laboratory, San Jose, CA. Academic Associate.
- 1980                IBM, Thomas J. Watson Research Center, Yorktown Heights, NY. Summer Research Assistant.
- 1977                Brooklyn College (CUNY), Computer and Information Science Department, Brooklyn, NY. Instructor, "Computers and Society."
- 1974 to 1977      Brooklyn College (CUNY), Computer Center, Brooklyn, NY. Systems Analyst.

**Courses Taught:**

- Winter 2005      Systems Analysis and Design, University of California at Santa Cruz.
- Winter 2004      Systems Analysis and Design, University of California at Santa Cruz.

|              |  |
|--------------|--|
| Spring 2003  | Systems Analysis and Design, University of California at Santa Cruz.   |
| Spring 2003  | Database Management, University of California at Santa Cruz.   |
| Fall 2002    | Relational Database Management (graduate course), University of California at Santa Cruz.                      |
| Spring 2002  | Relational Database Management (graduate course), University of California at Santa Cruz.                      |
| Winter 2002  | Database Management, University of California at Santa Cruz.   |
| Fall 2001    | Database Management, University of California at Santa Cruz.   |
| January 1998 | Infomaster, for Epistemics at PanCanadian Petroleum, Calgary, Alberta, Canada.                                 |
| Summer 1997  | Internet Payment: Technologies and Systems (co-organizing instructor), Western Institute for Computer Science. |
| Summer 1997  | Internet Commerce for Business (co-organizing instructor), Western Institute for Computer Science.             |
| Summer 1997  | Internet Security (co-organizing instructor), Western Institute for Computer Science.                          |
| Summer 1996  | Object Data Management (organizing instructor), Western Institute for Computer Science.                        |
| Summer 1996  | Electronic Commerce on the Internet (organizing instructor), Western Institute for Computer Science.           |
| Summer 1996  | Internet Security (organizing instructor), Western Institute for Computer Science.                             |
| Summer 1995  | Object Data Management (organizing instructor), Western Institute for Computer Science.                        |
| Summer 1995  | Internet Security (organizing instructor), Western Institute for Computer Science.                             |
| Summer 1994  | Object Data Management (organizing instructor), Western Institute for Computer Science.                        |
| Spring 1994  | Introduction to Databases, Universidad Blas Pascal, Córdoba, Argentina.  |
| Spring 1994  | Distributed Databases, Universidad Blas Pascal, Córdoba, Argentina.  |
| Fall 1993    | Introduction to Databases, Stanford University.  |
| Summer 1993  | Object Data Management Laboratory (organizing instructor), Western Institute for Computer Science.             |

Summer 1993 Object Data Management (organizing instructor), Western Institute for Computer Science.

Winter 1993 File and Database Systems (Graduate Course), Stanford University, co-taught with Hector Garcia-Molina.

Fall 1992 Introduction to Databases, Stanford University.

Summer 1992 Object Data Management (organizing instructor), Western Institute for Computer Science.

Spring 1992 Distributed Databases (Advanced Graduate Course), Helsinki University of Technology.

Spring 1992 Introduction to Databases, Helsinki University of Technology.

Winter 1992 File and Database Systems (Graduate Course), Stanford University.

Fall 1991 Introduction to Databases, Stanford University.

Summer 1991 Distributed Databases (Advanced Graduate Course), Stanford University.

Summer 1991 Databases in Modern System Architectures (organizer), Western Institute for Computer Science.

Fall 1990 Introduction to Databases, Stanford University.

Fall 1989 Introduction to Databases, Stanford University.

Fall 1988 Introduction to Databases, Stanford University.

Spring 1987 Data Management, Univ. of Texas at Austin.

Fall 1986 Database Management (Graduate Course), Univ. of Texas at Austin.

Spring 1986 Database Interfaces (Advanced Graduate Course), Univ. of Texas at Austin.

Fall 1985 Data Management, Univ. of Texas at Austin.

Summer 1985 An Intensive Introduction to T<sub>E</sub>X, T<sub>E</sub>X Users Group.

Summer 1984 An Intensive Introduction to T<sub>E</sub>X, T<sub>E</sub>X Users Group.

Winter 1981 Introduction to Computing, Stanford University.

Winter 1980 Introduction to Computing, Stanford University.

Summer 1979 Introduction to Computing, Stanford University.

Spring 1977 Computers and Society, Brooklyn College.

## Honors:

Who's Who in America, Millennium Edition (2000); Profesor Extraordinario Visitante, Universidad Blas Pascal, Córdoba, Argentina (1994); Best Student Paper, IEEE Computer Data Engineering Conference (1984); George Forsythe Memorial Award for Excellence in Student Teaching, Stanford University Computer Science Dept. (1981-82); President, Brooklyn College Chapter, Pi Mu Epsilon (1976-77); Top score at Brooklyn College on Putnam Exam (1976); Institutional Member Nominee by Brooklyn College to American Mathematical Society (1976).

## Scholarships:

1973 to 1977            New York State Regents Scholarship.  
1977 to 1980            National Science Foundation Graduate Fellowship.

## Professional Societies:

Association for Computing Machinery, Institute for Electrical and Electronics Engineers (Senior Member) (Vice Chair, IEEE Computer Society Technical Committee on Database Engineering, 1986–1987; Vice Chair 2009–2010, Chair 2010–2013, Immediate Past Chair 2013–present, IEEE Standards Working Group P1622 on Voting Systems Electronic Data Interchange; Member, IEEE Computer Society Standards Activities Board, 2010–2013), T<sub>E</sub>X Users Group, Sigma Xi, Mathematical Association of America, American Mathematical Society (Institutional Member Nominee), Open Voting Consortium (Vice President and Chief Operating Officer and Chief Financial Officer, 2003–2005; Secretary, 2005–2007), Voting Systems Performance Review (Chair, Executive Committee, 2005–present).

## Committee Memberships and Assignments:

Tuition Task Force, Brooklyn College, 1976–77;  
Visitors Committee, Computer Science Dept., Stanford Univ., 1977–78;  
Student Advisor, Computer Science Dept., Stanford Univ., 1978–85;  
Odd Jobs Chairman, Computer Science Dept., Stanford Univ., 1979–80;  
Prancing Pony Cooperative (runs a computerized vending machine), Financial Manager, Computer Science Dept., Stanford Univ., 1980–85;  
Computer Facilities Committee, Computer Science Dept., Stanford Univ., 1978–79, 1981–83;  
Curriculum Committee, Computer Science Dept., Stanford Univ., 1982–83;  
Systems Qualifying Exam Committee, Computer Science Dept., Stanford Univ., 1983;  
LOTS Computer Facility Liaison, Stanford Univ., 1983–84;  
Honor Code Commission, chairman 1984–85, Stanford Univ., 1983–85;  
Prospective Student Committee, Computer Science Dept., Stanford Univ., 1983–84;  
Finance Committee, T<sub>E</sub>X Users Group, 1983–85;  
Committee of Fifteen, Stanford Univ., 1984–85;  
Office Assignments, Computer Science Dept., Stanford Univ., 1982–83, 1984–85;

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